# VA Application Note No. V- 24

| **Title:** | **Copper and chromium in etching bath** |
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| ***Summary*:** | Determination of Cu and Cr in an etching bath. Due to the high concentrations of Mn and Ni, Cu is determined as the EDTA complex and Mn as DTPA complex |

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| ***Sample:*** | Etching bath solution |
| ***Sample Preparation:*** | UV digestion |

| **Copper:** | |
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| ***Electrolyte:*** | EDTA, $NH_4Ac$ |
| ***AE:*** | Pt |
| ***RE:*** | Ag/AgCl/KCl 3M |
| ***Parameters:*** | DPASV (+50 mV), HMDE<br>$U_{meas}$ = -300 mV (2s), $U_{start}$ = -300 mV, $U_{end}$ = +100 mV<br>Ep (Cu) = +20 mV |

| **Chromium:** | |
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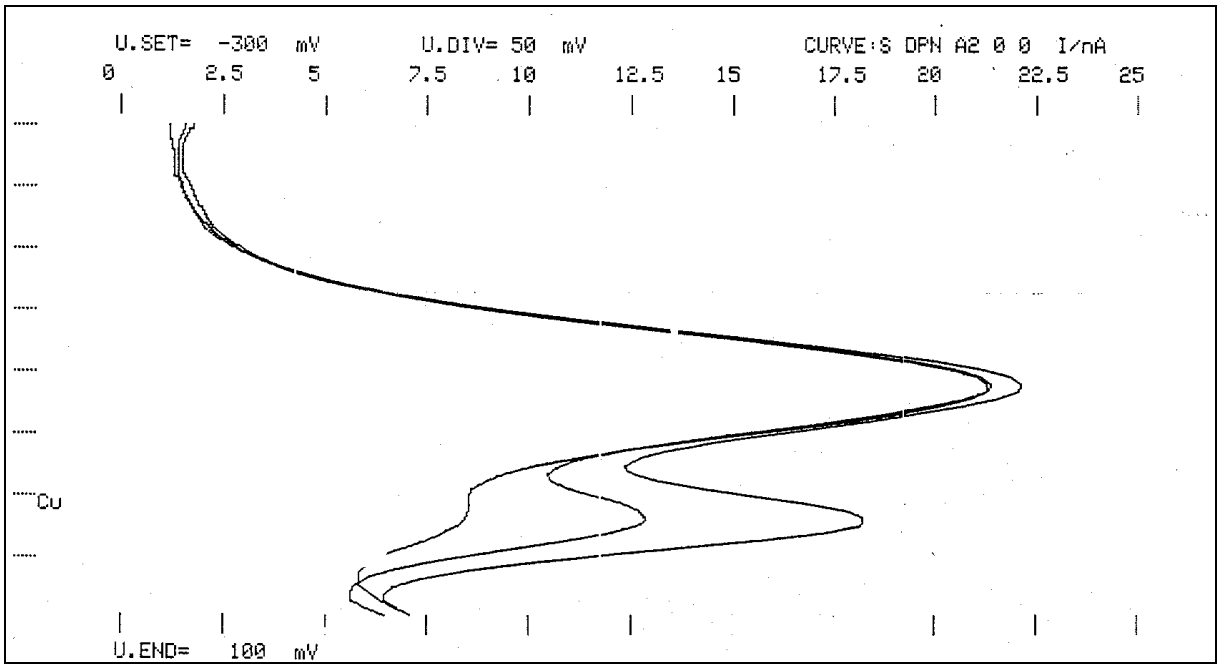
| ***Electrolyte:*** | $NaCH_3COO$, $NaNO_3$, diethylenetriaminetetraacetic acid (DTPA)<br>pH = 6.2 |
| ***AE:*** | Pt |
| ***RE:*** | Ag/AgCl/KCl 3M |
| ***Parameters:*** | DPCSV (-50 mV), HMDE<br>$U_{meas}$ = -1000 mV (10s), $U_{start}$ = -1000 mV, $U_{end}$ = -1450 mV<br>Ep (Cr) = -1230 mV |

| ***Results:*** | **Cu**<br>µg/L | **Cr**<br>µg/L |
|---|---|---|
| | **432** | **47** |

## Determination of copper




## Determination of chromium